

INSTITUTE of STATISTICS

Oxford

Bulletin Vol. 16

January 1954

No. 1

THE DISTRIBUTION OF PRIVATE CAPITAL, 1950-51

(With special reference to the problems of estimation)

This paper presents estimates of the distribution of private capital for the years 1950 and 1951¹ but its main concern is to discuss some of the difficulties which arise when an attempt is made to estimate capital holdings from estate duty returns.²

The reports of the Inland Revenue Commissioners for the years 1950-51 and 1951-52 provide sufficient information to enable more reliable estimates of the distribution of capital to be made than has previously been possible for post-war years.³ The report analyses the estates of capital owners reviewed in those years for death duty purposes by age and sex and thus provides essential information for the calculation of capital holdings. The main problem is to find out what proportion the amount of capital reviewed by the Inland Revenue Authorities bears to total capital, as it is the reciprocal of this proportion multiplied by the amount of capital reviewed which gives us an estimate of total capital. For each sum of capital reviewed how much exists which is not reviewed—in other words, what is the likelihood of any sum of capital coming up for review? This depends on the mortality rates of the human beings who own the capital and it is the reciprocals of the relevant mortality rates for each age and sex group⁴ which are used as multipliers to gross up the sum of capital reviewed. Some limitations of the employment of estate duty statistics for making estimates of capital holdings will now be examined; later mention will be made of the statistical difficulties which arise when the age and sex analyses of estates are not available.

¹ The estimates for the year 1951 were made using provisional mortality rates and consequently are not as accurate as those of 1950.

² A fuller and more detailed account of the problems concerning estimates of capital holdings, in particular of the use of estate duty returns as a suitable statistical sample will, however, be given in 'The Redistribution of Income Since Pre-War Years' to be published by the Oxford University Press.

³ Estimates of the Distribution of Private Capital in the years 1946 and 1947 and for the pre-war years 1936-1938 were published by the writer in the BULLETIN, December 1950, and February 1951.

⁴ The proportion of estates over £2,000 (and consequently liable for death duty) was 12.7 per cent of the total number of deaths in Great Britain during 1950. The average age at death of estate owners was higher than that of the general population possibly because of the length of time taken to accumulate an estate of £2,000 and over. (Average age, General population England and Wales at death, 67; Estate owners 72. Males: General population, 67; Estate owners, 71. Females: General population, 70; Estate owners, 75.) The reciprocals of general mortality rates (based on deaths in the total population) have been used in this paper as multipliers but the above evidence suggests that this procedure is not completely satisfactory. A discussion of this problem will be found in the forthcoming book referred to above.

SOME LIMITATIONS OF ESTATE DUTY STATISTICS

Estate duty statistics are published for each financial year. It has been usual to assume¹ that these statistics can be taken as fairly closely approximating to the amount of property left in the calendar year because of the delay in administering estates. This assumption may, however, be disturbed by the following considerations. The time lag in administering estates may change from year to year. It is probable that the average time lag is longer when large rather than small estates have to be examined. If the trend is towards a predominance of small estates² it is possible that the average time lag could decrease. It is understood,³ however, that although the number of small estates reviewed has increased the change is not yet sufficient to suggest that a more realistic assumption could be made than a lag of three months. The period of the time lag is, however, a factor which will have to be reconsidered from time to time.⁴

A more immediately important consideration is the method of publication of estate duty statistics adopted by the Inland Revenue Authorities. It is their policy to classify estates by number and by capital value. The numbers of estates shown are those on which duty was actually paid for the first time in the financial year under review, but the net capital values of estates shown are those known to the Inland Revenue Authorities at March 31st. They will, therefore, in some cases exclude parts of estates which should properly come into the current figures and include some capital value which should properly belong to the statistics of previous years. This procedure has two consequences for our estimates. The first is that estates are not segregated by financial years but are sometimes spread over two or more years. The second consequence is that estates are sometimes transferred from one group to another in subsequent years as adjustments alter the value of the estate known to the Inland Revenue Department.

The spread of estates between adjacent years is not likely to lead to considerable error for any single year unless mortality rates fluctuate widely. In most years mortality rates fluctuate very little, but if there is considerable fluctuation, and the property on which duty is paid in the second year is not exclusively property passing on deaths in that year but includes some 'spillover' from the previous year, a very considerable error may be introduced. A high level of mortality means that a very large amount of property passed on death but a high mortality rate means that the reciprocal (the multiplier) is low and vice versa in the case of a low level of mortality. If, for example, the mortality rate has fallen, this will result in a high multiplier in year 2 which will be

¹ Daniels and Campion, 'The Distribution of National Capital', Manchester University Press, 1936, and the writer in the BULLETIN, Dec. 1950 and Feb. 1951.

² Estates of £2,000-£10,000 formed 73 per cent of all estates reviewed in 1946-47 and 76 per cent in 1950-51.

³ The Inland Revenue Department provided assistance on this and other matters in this section.

⁴ It may well be, however, that estimates of the time-lag will have to remain rough approximations because of the administrative difficulty of making frequent checks.

applied to property which has 'spilt over' from year 1—a year of heavier mortality resulting in a large amount of property passing on death. Thus error can arise because an abnormally high multiplier (caused by a low level of mortality in year 2) may be applied to an abnormally large amount of property passing on death (caused by a high level of mortality in year 1). There seems to be some evidence that this situation may have occurred between 1937 and 1938.

The transfer between estate groups would appear also to be a source of error. It seems that the entries (the numbers of estates are those in respect of which duty was actually paid for the first time in the current financial year and the values are the amount known at March 31st) are modified when alterations made in the capital value of estates reported in earlier years have the effect of transferring such estates from one range to another. No correction is made to the statistics for the earlier years but adjustments are made to the statistics of the current year. If the alteration takes the estate out of its original capital group, the estate and its full value are added to the capital group corresponding to the full value in the current year and the figures previously used are deducted from the old capital group. If the alteration does not change the capital group the numbers of estates are not altered but the increase or decrease in the amount is shown in the same capital group in the current year. It is this procedure which gives rise occasionally to an entry in the table of values with no corresponding figure in the table of numbers. The underlying assumption is that corrections made in the current year to the figures for previous years can be taken as an approximation to the corrections that will be made in future years to the figures of the current year. If the numbers and amounts transferred from one range to another are large, miscalculations of capital holdings might arise, but it is understood that this is not in fact so.

A further complication may arise when the estate exceeds £250,000. Duty on the total estate may not be paid immediately¹ and although such an estate would be assigned to its correct capital group (based on total value) only the actual amount which has paid duty is included in the first year. Subsequent additions are made in the same group as further instalments of duty are paid. This is serious as far as our estimates are concerned and it is difficult to believe that the Inland Revenue's underlying assumption (that the corrections made in any year to the figures for previous years can be used as an approximation to the corrections which will later be made to the figures of the current year) can always be true in the higher capital groups because the number of such estates reviewed each year is small and subject to fluctuation.²

An accurate solution of these problems would need a precise recording of

¹ Estate duty on personalty must be paid immediately after death but duty on realty may be paid by instalments over a period of eight years.

² The Inland Revenue Department could solve this problem if they would publish the full amount of the estate (which must be known to them) instead of the actual amount that pays estate duty.

statistics for an agreed period. The possibility of carrying all corrections back to the year in which death was first reported has been considered by the Inland Revenue Department on a number of occasions, but it seems to have been rejected for three reasons: (a) the amount of work involved, (b) the space that would be occupied by publishing each year the figures for all previous years affected by corrections, and (c) the fact that complete statistics would be available only after a long period; for the latest years it would be necessary to estimate the extent of subsequent alterations before the figures could be used. It would, however, appear that the space taken up might not be extensive if the corrected figures for the last two or three years only were published and although complete statistics might be available only after a number of years, it is likely that most corrections would occur within a comparatively short time.

The statistics of numbers of estates provided by the Inland Revenue Authorities are perhaps more satisfactory for making estimates for a single year but it is not possible to compare changes in the distribution of capital between years without further estimates of the amount of capital held. The mid-point value of the various capital groups could be taken and multiplied by the number of estates in any group but this would most probably be subject to the error that the real average is not the mid-point, since estates are more likely to be clustered towards the lower limit of a group than at the higher limit.

At present, a solution which should minimize the errors, especially when the fluctuation in mortality rates is small, is to make calculations for a period of years and then to use the average for that period to make comparisons with other periods. This solution helps also to reduce sampling errors which are likely to be present in the higher capital groups where the number of estates reviewed each year (which constitutes the sample) is small. The estimates for the year 1950 cannot yet be combined satisfactorily with those of any other year. They have been combined below with those of 1951 but it must be remembered that the estimates for 1951 are provisional. Estimates for previous years based on reconstructed age and sex analyses are subject not only to the errors discussed above but to others discussed later. The estimates presented below must be accepted, therefore, with some reserve.,

THE DISTRIBUTION OF CAPITAL OWNERS WITH ESTATES OF MORE THAN £2,000

Table 1 shows the distribution of those capital owners who had more than £2,000 in 1950 and 1951. It will be noticed that the distribution is unequal in both years; approximately 19 per cent of it belonged to 60 per cent of the owners and 43 per cent belonged to only 6 per cent of them. It is interesting to compare this situation with a similar pre-war distribution. Table 2 shows estimates for the period 1936—1938 and for the year 1936. The year 1936 is shown separately for there is evidence to suggest that the years 1937 and 1938 are subject to error caused by the spill-over problem

discussed above,¹ but estimates for the period 1936–38 are nevertheless shown as estimates for any one year must be subject to sampling errors and an average estimate for the whole period may not be too inaccurate (even though the estimates for each year are subject to error). In order to compare the 1950 and 1951 estimates with those of pre-war years a breakdown of the £1,000—£5,000 capital group is needed for 1936–38. This breakdown was made by interpolation.²

TABLE 1

The Distribution of Capital in Great Britain, 1950 and 1951
(Capital owned by persons aged 15 and over with more than £2,000)

Capital Group £ thousand	(Numbers of Persons)					
	thousands	per cent	thousands	per cent	thousands	per cent
	1950		1951		Average 1950 and 1951	
2—5	1,522	59.5	1,560	59.0	1,541	59.4
5—10	563	22.0	572	21.6	567	21.8
10—25	329	12.9	363	13.7	346	13.3
25—50	90	3.5	93	3.1	92	3.5
50—100	37	1.5	39	1.5	38	1.5
Over 100	19	0.7	16	0.6	18	0.7
Totals	2,560	100.0	2,644	100.0	2,602	100.0

Capital Group £ thousand	(Amount of Capital)					
	£ million	per cent	£ million	per cent	£ million	per cent
	1950		1951		Average 1950 and 1951	
2—5	5,202	19.3	5,029	18.5	5,115	18.9
5—10	4,225	15.7	4,421	16.2	4,343	16.0
10—25	5,614	20.8	6,114	22.5	5,864	22.0
25—50	3,244	12.0	3,520	12.9	3,382	12.5
50—100	2,756	10.2	2,786	10.2	2,771	10.2
Over 100	5,964	22.1	5,367	19.7	5,661	20.9
Totals	27,004	100.0	27,237	100.0	27,116	100.0

¹ The death rate in 1938 was exceptionally low, 12.6 per thousand for males and 11.0 for females: in the previous year 1937 the death rate was high—namely 13.4 for males and 11.9 for females. Estimates for these years show an increase of about £1,400 million in private capital (properties of over £100 in value)—but, indices of share prices and of Government securities indicate a fall in price between these years. (Actuaries' Investment Index for ordinary shares fell from 83.0 (mid-1936) to 67.6 (mid-1938) and 2½ per cent Consols fell from 85.2 to 76.3. Consequently, it is unlikely that total private capital would have increased.

² It is possible to find out what proportion the number of estates in the capital group £2,000—£5,000 is of the total number of estates, but this method has not been used because of the difficulty of estimating correctly the amount of capital in the group. To use an estimated mid-point value and multiply this by the number in the group neglects the problem of the spread of estates in the group.

TABLE 2

The Distribution of Capital 1936-38 and 1936
(Capital owned by persons aged 15 and over with more than £2,000)

Capital Groups £ thousand	Numbers		Amount	
	Thousands	per cent	£ million	per cent
		1936-38		
2-5	728	57.9	2,057	13.6
5-10	256	20.4	1,973	13.1
10-25	177	14.1	2,906	19.3
25-50	55	4.4	2,008	13.3
50-100	26	2.1	1,817	12.0
Over 100	15	1.2	4,331	28.7
Totals	1,257	100.0	15,092	100.0
		1936		
2-5	692	58.0	1,904	13.2
5-10	249	20.5	1,928	13.4
10-25	177	14.6	2,908	20.2
25-50	54	4.5	2,067	14.3
50-100	25	2.1	1,814	12.5
Over 100	16	1.3	3,752	26.1
Totals	1,213	100.0	14,373	100.0

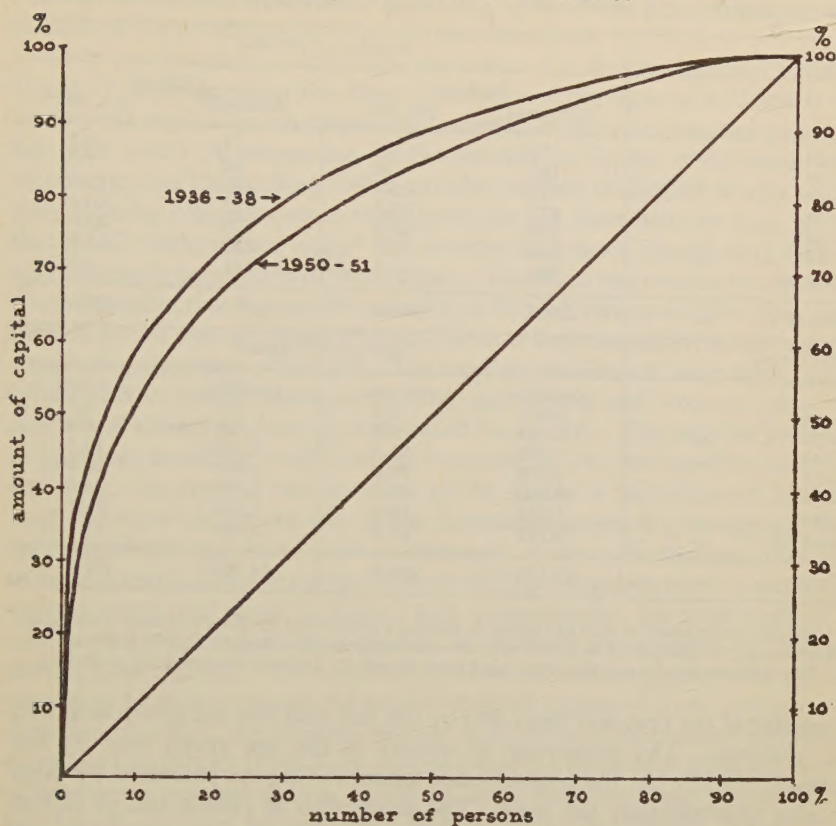
It would appear from these estimates and from Chart 1 that the proportion of people possessing capital had increased in the lower capital groups and that they also held a higher proportion of the total amount of capital, but it is not possible to conclude that a considerable redistribution of capital has taken place since price changes would bring many more people above the limit of £2,000 and as more people would come into the lower capital groups than into the higher groups this would account to a considerable extent for the movements shown in the estimates. The number of capital owners with more than £2,000 had increased in the group £2,000-£10,000 from approximately 78 per cent to 81 per cent of the total number (an increase of 4 per cent), and the amount of capital held by them increased from approximately 27 per cent to 35 per cent (an increase of 30 per cent). The proportion of capital owners with more than £50,000 had, however, decreased from 3.3 per cent to 2.2 per cent (a decrease of a third) and the proportion of capital owned by them decreased from 40.7 per cent to 31.1 per cent (a decrease of almost a quarter). In order to consider the extent of any redistribution it is necessary to make an estimate of the total number of capital owners; therefore, an additional estimate must be made of those with less than £2,000 and of the amount of capital held by them.

Before examining the statistics of estates of less than £2,000 it is interesting to consider Table 3 which shows the distribution of capital and capital owners with more than £2,000 by age groups. It will be noticed that both in 1950 and 1951 and in the pre-war period the number of capital owners and the amount possessed by them increases until the age of 65 and then declines.

DISTRIBUTION OF PRIVATE CAPITAL—1950 AND 1951

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CHART 1.¹ *Lorenz Curves showing the Distribution of Capital Owners with more than £2,000 in 1950-51 and 1936-38*



The same tendency was found in a recent enquiry into personal incomes and savings made in 1952.¹ Further, this enquiry found that the age group 45-64 possessed more liquid assets² than the age groups over 64 or under 45. Table 3 shows that this was also the situation when all private assets are considered both before and after the war years. It would appear that there were more capital owners under 45 in 1950-51 than in 1936-38 and that they possessed more capital—(26 per cent owning 29 per cent in 1950-51 and 25 per cent owning 24 per cent in 1936-38). This may perhaps be caused by the greater

¹ An index of inequality can be estimated from Chart 1, namely, the ratio of twice the area of the segment enclosed by the curve and a diagonal of the square, to the area of half the square. For an equal distribution, represented by a diagonal, the index is 9. For a perfectly unequal distribution, represented by the two sides of the square, it is 2. The index gives values of 1.64 for 1936-38 and of 1.59 for 1950-51.

² Lydall. National Survey of Personal Incomes and Savings. BULLETIN, June and July 1953.

³ The liquid assets included are deposits in the post office savings bank, trustee and other savings banks and joint-stock banks. Savings Certificates (valued at purchase price) and Defence Bonds ; and shares and deposits in building societies and co-operative societies.

TABLE 3

The Distribution of Capital Owners by Age Groups, Great Britain 1950-51 and 1936-38

Age Group	Number of Persons			
	1950-51		1936-38	
	thousands	per cent	thousands	per cent
15-24	71	2.7	27	2.1
25-34	191	7.3	92	7.3
35-44	415	15.9	195	15.5
45-54	577	22.2	256	20.4
55-64	586	22.5	338	26.9
65-74	499	19.2	238	18.9
75 and up	266	10.2	111	8.9
Totals	2,605	100.0	1,257	100.0
Age Group	Amount of Capital			
	£ million	per cent	£ million	per cent
15-24	1,059	3.9	340	2.3
25-34	2,434	9.0	950	6.3
35-44	4,206	15.5	2,320 ¹	15.5
45-54	5,373	19.8	3,000	20.0
55-64	5,680	21.0	3,710	24.7
65-74	5,155	19.0	2,950	19.7
75 and up	3,212	11.5	1,690	11.3
Totals	27,119	100.0	14,960 ²	100.0

¹ The amount shown in this age group is strongly influenced by the inclusion of one large millionaire in the sample of Scottish estates—probably to the extent of £500 million.

² The difference between this total and that shown in Table 2 is caused by rounding.

prosperity of the post-war years and by the fact that this age group acquired war gratuities. The proportion of owners in the age group over 65 has increased slightly but the proportionate amount of capital possessed by them remains approximately the same. The proportion of people and of capital in the middle age groups has declined (in number from 47 per cent to 45 per cent and in amount possessed from 45 per cent to 41 per cent). This may reflect the fact that these people are perhaps living on capital because it is likely to be this age group that has the greatest financial liabilities.

ESTATES OF LESS THAN £2,000

Estates of less than £2,000 have been exempt from death duty since 1946 and consequently no statistics are provided about them in the Inland Revenue Report. It is, therefore, necessary to try and find out by other means either the number of people who died in 1950¹ and who owned capital or to estimate directly the relevant number of living people. Both methods are used. Firstly, in order to make as much use as possible of the information in the Inland Revenue Report, which in 1950 provided information about the number of English Grants of Representation and which before 1946 provided

¹ The estimates are made for 1950 only as these estimates are presented simply to illustrate a possible procedure for taking account of estates of less than £2,000

information about all estates of more than £100,¹ an estimate is made of the number of estates with capital of £100 to £2,000. Secondly, a direct estimate is made of the number of people with less than £100.

It is not possible to deal with the assets of a deceased person before a Grant of Representation has been obtained and the issue of a Grant is not made until estate duty on personalty (personal as distinct from real property) has been paid.² A comparison of the number of Grants of Representation received by the Estate Duty Office and the number of English estates paying duty (that is, estates of more than £100) for the years 1941 to 1945 reveals that in all years except 1943,³ the number of estates paying duty formed approximately 90 per cent of the number of Grants of Representation received. An assumption that in 1950 the number of English estates of more than £100 formed 90 per cent of the number of Grants of Representation would indicate a total of such estates of 199,400. The number of estates of more than £5,000 (given in the Inland Revenue Report) was 29,164 and, consequently, the number of estates of £100–£5,000 would be 170,236. The number reviewed in 1945 was, however, 160,805 which increased by 17.5 per cent between 1941 and 1945. In view of the increases in the prices of capital assets between 1945 and 1950 a larger increase in the number of estates of £100–£5,000 than approximately 6 per cent would be expected. It has been decided, therefore, to assume that the total number of Grants of Representation received (221,554) were in 1950 over £100 in value,¹ and, consequently, the total number of estates of between £100 and £5,000 in value in 1950 would be 192,390 (221,554 less 29,164). The number of estates of between £2,000 and £5,000 must now be deducted and the total of English estates of £100 to £2,000 is, therefore, 160,344. An estimate has also to be made of the number of Scottish estates of this value. It has been assumed that the number of Scottish estates of between £100 and £5,000 increased by at least the same proportion as that which occurred between 1941 and 1945 and the number of estates of between £2,000 and £5,000 is then deducted. The total number of estates of between £100 and £2,000 in Great Britain in 1950 is thus assumed to be not more than 179,000.

¹ Estates of £100 and less were exempt before 1946.

² Grants of Representation are required for practically all estates however small their value but there are some statutory exemptions applying to small sums payable by Friendly Societies, Savings Banks, Provident Funds and so on.

³ For the year 1943 the proportion was 98 per cent.

⁴ The application for a Grant of Representation may be made direct to the Probate Registry where the value of the estate is less than £1,500, but in practice it would appear that virtually all applications are made via the Estate Duty Office. This is borne out by a comparison of the figures of grants issued, taken from the civil judicial statistics, and the figures of grants received in the Estate Duty Office.

	<i>Civil Judicial Statistics</i>	<i>Referred to Estate Duty Office</i>
1948	205,325	204,923
1949	217,078	217,682
1950	220,709	221,554

The Inland Revenue report states that the inclusion of figures of Grants of Representation was intended to give some guide to the broad trend of figures on the old basis, that is, of all estates of more than £100. It may further be noted that any change in a tax exemption limit (particularly after a long period of the former limit) takes time to become established in the public's mind and returns based on the former limit continue to be received by the taxation authorities for a period of years.

Another method of arriving at this total can perhaps be used as a check. The proportion of small estates (£100-£10,000) was an almost constant proportion of the total number of estates left during the years 1936-1945¹ and while it is precarious to base an estimate for the year 1950 on the assumption that these constant proportions continued for the period 1945-1950 it will at least be interesting to compare it with the results. A calculation for the group £100 to £2,000 based on this assumption gives a figure of 205,060. This is considerably higher than the previous estimate and is clearly too high as the basic assumption of our first calculation gives us a maximum.

The estimate could not be grossed up by using the general number multiplier because this multiplier is an average of the reciprocals of the relevant mortality rates for each age group weighted by the number of persons in each group. If this multiplier is based on estates of £2,000 and over only it is weighted largely by the older capital owners whose estates tend to fall in the higher capital groups. If a number multiplier is calculated separately for each capital group it is found that as it is weighted more and more by younger capital owners so it increases in size. Consequently, a multiplier was found (separately for England and Scotland) for the £100 to £2,000 group by extrapolation. The grossed up result obtained is 8,744,500 persons. The spread of these people in the group £100-£2,000 has been found by the use of interpolation and the capital owned by them by multiplying the average value of a small capital group (for example, £100-£250) by the number of people assumed to be in the group. The total value would appear to be £5,050 million. It must be emphasised that these calculations are *very tentative*. They are based on as much information as is available to make estimates based on estate duty statistics but their error margin must be considerable. An accurate estimate could probably be made to-day only if a sample survey could be taken of capital owned by private persons.

CAPITAL OWNED BY PERSONS WITH LESS THAN £100

Information about capital owned by persons with less than £100 has always been difficult to discover.² The greater part of this capital is likely to consist of liquid assets such as post office savings banks deposits, Savings Certificates and so on, and a recent survey³ of personal incomes and savings in 1952 gives some information about the distribution of such personal liquid assets.⁴ The survey estimates that there were 22 million income units⁵ in Great Britain and that 7 million of them had no liquid assets and that a further 3 million had less than £10 in liquid assets. Liquid asset holdings are analysed according to the number of persons in each income unit and from the information⁶ it can be calculated that there were 22 million persons who

¹ See Table 1. The Distribution of Capital in Private Hands. BULLETIN, December, 1950.

² See Daniels and Campion, *op. cit.*, p. 26 and p. 48, and the writer. BULLETIN, Dec 1950, p. 346, and Feb. 1951, p. 38.

³ Lydall. National Survey of Personal Incomes and Savings. BULLETIN, Nov. and Dec., 1952, and June and July, 1953.

⁴ *Ibid.* The liquid assets included in the sample are listed on p. 7, Footnote 3.

⁵ *Ibid.* An income unit is either a single adult person over 18 years with a separate income or a group of persons who pool their income.

⁶ *Ibid.* Table 39.

have no or very small liquid assets. Some of these persons will be children but, at least, 65 per cent of the income units have no dependent children and would consist of people over 18 years old—that is, at least 6.5 million income units and probably 9.0 million people). The remaining 35 per cent of the income units will contain at least one person over 18 years old (3.5 million people). A further 5.3 million income units are estimated to have liquid assets of less than £100 (3.4 million income units with no dependent children covering probably about 5.0 million people and a further 1.9 million income units which will contain at least one person over 18 years old).

It is probable that in 1952 there were about 13 million people over 18 with no or very small liquid assets and a further 6.9 million people with between £10–£100 in liquid assets. These figures which refer to 1952 and not to 1950 do not directly help us to make an estimate of the number of people with less than £100 capital which is comparable with previous estimates.¹ Capital assessed for estate duty includes the value of insurance policies; further, people who have no liquid assets may have other assets. They do, however, reveal the difficulty of making estimates of capital holdings based on the estate duty definition of capital which includes in capital, cash and the value of insurance policies.² It may be legitimate to assume that all adult people who do not possess capital of over £100 do possess some assets (although there must be some people with negative capital whose assets do not cover their debts) and to assume as has been done by previous writers³ that all over 25 years of age possess capital. The estimate shown in Table 4, has been based on this assumption. But, it is very difficult to make a meaningful estimate of the amount of capital owned by these people as it appears likely that those with insurance policies would have nearly £100 but that those without insurance policies might have very little. No estimate has, therefore, been made of the amount of capital involved. An estimate for the period 1936–38 is shown in Table 4. The basis on which this is made is discussed in previous BULLETIN articles but, it is probable that the factors discussed there refer to the more prosperous estates of less than £100 and that in view of the evidence discussed above that the estimate is subject to a wide margin of error.

The difficulty of making a meaningful estimate of the amount of capital of less than £100 means that it is not possible to discuss adequately any changes in the distribution of capital since pre-war years. There are, however, 3 million more people aged 25 and over than there were in 1936–38 and Table 4 does suggest that there are fewer people with less than £100 in 1950 than

¹ Daniels and Campion, *op. cit.* pp. 26 and 48 and the writer in the BULLETIN, Dec., 1950, p. 346, and Feb. 1951, p. 38.

² To gross up the value of insurance policies means that the resulting capital estimates are of capital which a person could dispose of through his will and not of capital which a person could use in his lifetime. The surrender value of insurance policies should be included in an estimate of current disposable capital and a tentative solution towards finding this value will be discussed in a forthcoming publication to be published by Oxford University Press.

³ It is assumed that those aged 15–25 who have capital of less than £100 are equal to those aged 25 and over who have no capital.

TABLE 4

The Distribution of Capital, Great Britain, 1950 and 1936-38
(all persons assumed to possess capital)

Capital Groups	1950	
	Numbers (thousands)	£ million
Under £100	20,363	?
£100—2,000	8,745	5,050
2,000—5,000	1,522	5,202
5,000—10,000	563	4,225
10,000—25,000	329	5,614
25,000—50,000	90	3,244
50,000—100,000	37	2,756
Over 100,000	19	5,964
Capital Groups	1936-38	
	Numbers (thousands)	£ million
Under £100	21,421	1,000-1,031
£100—2,000	6,108	3,690
2,000—5,000	728	2,057
5,000—10,000	256	1,973
10,000—25,000	177	2,906
25,000—50,000	55	2,008
50,000—100,000	26	1,817
Over 100,000	15	4,331

there were in pre-war years. It would also appear from this Table and from Tables 1 and 2 that there are more people in the middle capital groups and that they own more capital. Some of this movement is probably caused by price changes but the small increase in both the number of people and the amount of capital in the higher capital groups may be caused partly by the high rates of death duty and partly by the present difficulties in the way of accumulating a large capital sum.

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APPENDIX

NOTE ON ESTIMATES BASED ON RECONSTRUCTED AGE AND SEX DISTRIBUTIONS

The information about estate duty statistics provided in the Inland Revenue Reports for all post-war years before 1950 is of the total numbers of estates liable to duty and of the total net capital value of estates analysed by capital groups. The estimates published previously for 1946 and 1947 were made by reconstructing age and sex distributions based on the pre-war distributions. The main difficulty was to build up a correct age distribution. The age distribution was assumed to have changed from the pre-war pattern by the percentage difference between the number of deaths that occurred in each age group of the general population between pre- and post-war years.

The results were, of course, subject to considerable error. Unfortunately it was not possible to estimate the size of this error, but any age distribution other than the correct one would mean that the wrong multipliers must be applied to some of the estates.¹ A slight error in the calculation of the dis-

¹ To alter the pre-war age and sex distributions by the percentage difference between the number of deaths that has occurred in the general population introduces an error—the alteration should be the percentage difference between the number of deaths that had occurred amongst capital owners.

tribution between young and old people would be considerably magnified in the grossed up results because the estates of the young are multiplied by a high multiplier which is the outcome of their low death rates and those of the old are multiplied by a low multiplier resulting from their high death rates. A check was made on this method by making estimates for 1950 based on a pre-war distribution and then comparing these estimates with the results obtained by grossing up the statistics given in the Inland Revenue Report. The comparison is shown in Table A. It will be seen that although the results made from the pre-war age distribution are subject to considerable error, the relative distribution is not affected to the same extent.

TABLE A
Distribution of Capital in 1950, England and Wales
Number calculated from age distribution given in the Inland Revenue Report

<i>Capital Groups</i>	<i>Numbers thousands</i>	<i>percentages</i>	<i>Amount £ million</i>	<i>percentages</i>
2—5	1,390	59.71	4,787	19.46
5—10	508	21.82	3,823	15.54
10—25	296	12.71	5,052	20.54
25—50	82	3.52	2,936	11.94
50—100	34	1.46	2,442	9.93
Over 100	18	0.77	5,558	22.60
Totals	2,328 •	100.00	24,598	100.00
<i>Estimates calculated from adjusted pre-war age distribution</i>				
2—5	1,185	59.22	4,052	18.32
5—10	430	21.49	3,309	14.96
10—25	264	13.19	4,545	20.55
25—50	75	3.75	2,667	12.06
50—100	31	1.55	2,258	10.21
Over 100	16	0.80	5,281	23.88
Totals	2,001	100.00	22,112	100.00

AVERAGE WAGES IN U.S.S.R.

A REJOINDER

In the September (1953) issue of the BULLETIN Mr. Wiles criticizes my data on nominal wages in the Soviet Union in the post-war years presented in my book *Labor in the Soviet Union* and considered much too low almost by all authors who have written on this topic. May I be permitted to make a few remarks in reply?

(1) Mr. Wiles seems to agree that in all our attempts to discover the movement of Soviet nominal wages in the post-war years it is of decisive importance to find out the wage average at the time immediately after the end of the war. He agrees also that during the war wage rates remained practically unchanged and that important increases in *earnings* were due to considerable lengthening of working time with higher pay for over-time work. Consequently, after the war, with the return to pre-war working hours, earnings had to fall to the pre-war level or even under this level, considering the sharp drop in productivity of labor in the first period after the end of the war (s. *Labor*, p. 205). This assumes, of course, that wage rates had not been raised by that time. Nothing in this respect was announced in the Soviet press. Yet Mr. Wiles takes it for granted that wage rates actually were raised—because ‘no evidence at all is offered that the wage-rates remained unchanged’. This argument is unconvincing since the official Soviet wage policy during the entire post-war period (and as a whole also before the war) was openly and consistently opposed to raising wage-rates on the principle that *earnings* should rise only as a result of rising productivity of labor. This principle was restated unconditionally just before the end of the war (s. *Labor*, pp. 204-209).

(2) An exception from this principle of the inadmissibility of raising wage-rates was made in the post-war years only once: in mid-September 1946 when, in connection with the sharp raising of prices for rationed commodities, wage increases were granted to all workers and employees with monthly earnings of not more than 900 rubles (practically, to approximately 98 per cent of all workers and employees): those who earned not more than 300 roubles monthly received a monthly wage increase of 110 rubles, those in higher groups received wage increases of 100, 90, or 80 rubles. Mr. Wiles ‘guesses’ that the average monthly wages for all workers and employees rose by 86.5 rubles, ‘deriving this guess from the pre-war statistics of wage inequality in A. Bergson, *The Structure of Soviet Wages*’. This wage increase was effective already for the last $3\frac{1}{2}$ months of 1946. Thus, ‘if this was the only increase in either 1946 or 1947, average annual earnings in 1947 must have been $8\frac{1}{2} \times 86.5 = \text{R. } 735$ higher than in 1946’. The percentage of wage-increase from 1946 to 1947 can be calculated from the data given in the Soviet economic report for 1947. Mr. Wiles calculates it to be 19.1 per cent; the correct figure would be 18.2 per cent. If 735 rubles is equal to 19.1 per cent of the 1946 average annual earnings, it must have been R.3,848. This is obviously much too low,

This is the reasoning of Mr. Wiles. Actually, as a result of the September 1946 decree, the monthly average rose not by 86.5 rubles but more. If the wage-average by September 1946 had been equal to the pre-war level (338–339 roubles monthly, Wiles, p. 333), the average increase calculated according to the method of Mr. Wiles would be not 86.5 but 102.5 rubles.¹ If the pre-September wage level was 10 per cent higher than in 1940, i.e. if it reached 372 rubles, the increase would average 99.15 rubles. To make the calculation as simple as possible may we 'guess' an increase of 100 rubles monthly or for 8½ months 850 rubles. If this signifies an increase of 18.2 per cent over the 1946 average the yearly average for 1946 would have reached 4,670 rubles (against my computation of 4,200–4,400 rubles and Mr. Wiles's of 5,700 rubles).

(3) I further argued for a lower level of wages that the Soviet press had never mentioned that the Fourth Five-Year-Plan's wage target of 6,000 rubles for 1950 was ever reached, and that even in 1949 and 1950 Soviet authors spoke of reaching this target in the future tense. For Mr. Wiles, incredible as it is, precisely these remarks of Soviet authors seem to prove that the wages actually surpassed this level: 'Well, how could it be if they were still . . . less than that, as Mr. Schwarz supposes? Either they were reminding their readers of an unfulfilled promise as to real wages, or of an unfulfilled promise to contain inflation. In either case these authors showed small political aptitude, but on Mr. Schwarz's supposition they were practically enemies of the people'. In other words, the target of the Fourth Five-Year-Plan for 1950 was surpassed long before the end of the five-year period (according to Mr. Wiles the wage-average already reached 6,800 rubles in 1947), but the Soviet authorities kept this a secret to avoid 'giving valuable propaganda information to the enemy'.

Actually the Soviet press in no way ever hesitated to announce and to give great publicity to high earnings (s. *Labor*, pp. 179 and 203–204) and it was the Communist press abroad which considered such reports as 'valuable propaganda information'. The Soviet authorities seemed also in no way disturbed that the announcement of such data might let 'the others' make 'demands'. The workers and employees of the Soviet Union do not even have the machinery to make such 'demands'.

(4) Mr. Wiles says, that even if the Bergson discount were doubled: ' . . . the small wage fund was planned at R. 175 milliard, which gives an annual average of R. 5,550. But by his method Mr. Schwarz arrives at R. 4,610 for the actual average in 1947. The discrepancy is fatal to him'. However, my figure for 1947 is not 4,610 rubles, as Mr. Wiles erroneously

¹ Since the monthly wage average in 1934 (October), as quoted by Bergson (p. 117) was 192 rubles and the pre-September, 1946, average is assumed to be equal to 338 to 339 rubles the five wage groups of the September decree (up to 300, from 300 to 500, (from 500 to 700, from 700 to 900, and over 900 rubles) must have corresponded to the 1934 groups: up to 170, from 170 to 284, from 284 to 398, from 398 to 512, and over 512 rubles. These five groups comprised (respectively according to Bergson's table, p. 228) 59.5, 26.8, 8.5, 3.2 and 1.9 per cent of all workers and employees.

quotes, but 5,000–5,200 roubles (*Labor*, p. 211) against Mr. Wiles' figure of 6,800 roubles. What about the 'fatal' 'discrepancy'?

(5) A recent Soviet publication—for the first time in a decade—gave an indication of the actual wage average in 1951: in the December 1952 issue of *Professional'nye Soyuzы* (*Trade Unions*), monthly magazine of the Central Trade Union Council of the Soviet Union, in an article on 'Trade Unions in the Post-war Period of Reconstruction and Further Development of the National Economy' (p. 52), we read: 'The national income of the U.S.S.R. rose from 1940 to 1951 by 83 per cent . . . *The money wage of the toilers rose in this period nearly one and half times.* But the average wages (earnings) in 1940 are known. They were: 4,069 or 4,054 rubles (Wiles, p. 333). Their increase by 'nearly' 50 per cent seems to signify that the wage level in 1951 was drawing near to 6,000 rubles, the level projected in the Fourth Five-Year-Plan for 1950. But even here it was not yet stated, what would be natural, that this planned level for 1950 had been reached. Indeed, 'nearly' 6,000 rubles is also probably higher than my figures of 5,200 to 5,400 rubles, but it is at least in the same order of magnitude and very far from over seven, eight, or nine thousand, as suggested by the 'optimists' including Mr. Wiles.

(6) One remark more, beyond the scope of my controversy with Mr. Wiles. In my computations of nominal wages in the Soviet Union I in fact overlooked one factor which might put the wage average a little higher than I calculated (it seems to have been overlooked also by other authors who have written about Soviet wages). This is the changing professional structure of the Soviet working masses: the percentage of skilled and semi-skilled workers (and employees) seems to rise, that of the unskilled to fall. This must, even at unchanged wage-rates, cause some rise of the wage-average. My figures, thus, may have to be corrected by a few per cent. Basically it changes nothing.

SOLOMON M. SCHWARZ.

A REPLY

Mr. Schwarz's basic position is that (a) a certain average increase took place on September 16th, 1946; (b) this was the sole increase in earnings between Jan. 1946 and Dec. 1947; and since (c) the percentage increase in 1947 over 1946 is also known we can deduce the two absolute figures.

(i) First as to (c). My 19.1 per cent is indeed an error for 18.2 per cent.

(ii) As to (a). I may also well be in error in having given too much weight to the zero increase awarded under the decree of 16 Sept. 1946 to those earning over R.900 a month. Mr. Schwarz is quite right in supposing a fall in average wages from the 1944 level after the war, for even though there is no real evidence for constant wage rates in 1945 productivity did fall (*Labor*, pp. 105, 257). Thus when we come to 15 Sept. 1946 wages may have been lower than I implicitly supposed and much more weight should be given to the higher increases received by the poorer workers (compare my p. 337 (iii)). Let us follow, then, Mr. Schwarz's guess of an average increase of R. 100 per month. This gives the annual increase as R. 850, which is 18.2 per cent of R. 4,670. The 1947 average now becomes $R. 4,670 + 850 = R. 5,520$. This is indeed higher than the R. 4,610 I fathered on Mr. Schwarz. Moreover R. 5,520 in 1947 is compatible with the planned and published larger wage-fund for that year of R. 280 milliard on the assumption that Bergson's discount is doubled—as shown on my p. 338 (vi). We know so extremely little about Bergson's discount that we may indeed allow it to be doubled. There is thus nothing impossible in Mr. Schwarz's calculation, taken by itself.

(iii) However, and now we come to (b), he has in no way disproved the existence of unpublished wage increases in 1946 and 1947, or indeed in any other years. It is true that *basic wage rates for defined categories* have not even to this day changed much since 1946, indeed not since 1940. Thus foremen in the Ministry of Machine Building receive basic rates laid down in 1940¹. The basic rates for building workers in 1953 date back to 1946². And it was still logical in 1952 to say of a fully qualified doctor with 5—10 years' experience, that his pay was R. 600 a month plus the 1946 increase³. Ambulance drivers, again, are said to receive R. 450 a month, 'including the 1946 increase'.⁴ This all implies basic rates fixed before the war, and leads further to suppose that the Ministry of Machine Building treats the '1946 increase' as a separate item automatically added to the basic pay. Now this ministry is of the greatest importance and enjoys many priorities. If its foremen's basic rates have not changed since 1940, it is difficult to suppose that others have done so significantly: they may be able to quote

¹ Kabanov, *Organizatsia Zarplaty na Uchastke Mastera* (Moscow 1953), p. 77. I owe this and the three following quotations to Mr. Nove, of Glasgow University.

² Protopopov, *Bukhgalterski Uchot v Podryadnykh Stroioorganizatsiakh* (Moscow, 1953), p. 192.

³ Bychkov and Yermolov, *Oplata Truda Meditsinskikh Rabotnikov* (Moscow 1952), p. 31.

⁴ *Ibid.*, p. 72.

later regulations but probably not much higher scales. Even so, however, surely *some* basic scales have risen, and there are no years more likely to have seen them do so than 1946 and 1947, when war-time discipline had been relaxed but there was still roaring inflation.

But I understand by the constancy of wage rates also the constancy of job classifications and of bonus rates. Not only does the increase in skill automatically promote people to higher categories, as Mr. Schwarz rightly says, but also many workers are upgraded without justification, doubtless as an indirect cost of living increase: 'In most of the enterprises of the Ministry of Heavy Machinery there are no workers in category I at all. The proportion of those in category II varies from 0.9 to 6.1 per cent. In many enterprises cleaners are category III and now and again in IV, and odd job men are not lower than IV. . . . Not seldom the management and the trade union exercise a weak control over the promotion of workers from lower to higher categories.'¹ Again in new industries and even in old ones new job classifications are constantly arising: they must surely be better paid than the corresponding old ones. As to bonuses, Mr. Schwarz himself shows how their rates were increased after the war. (*Labor*, p. 209.) His quotations merely show that it was Soviet policy to keep productivity rising faster than wages, which in the inflation that went on until 1948 is quite quite compatible with a rise in money wage-rates.

I argued that it would be unwise to publish general rises in money wage-rates, as it would sap financial discipline and give rise to more wage claims. Hence lack of evidence for rate increases is not evidence against them. Mr. Schwarz replies that Soviet propaganda is full of high *individual* earnings figures, but this is neither here nor there. The *average* figure is what we are talking about, and this has always been concealed since 1940. To announce the actual wages of Stakhanovites is to encourage others to become Stakhanovites: to announce the actual average is to encourage further demands from all who fall below it. Informal machinery for making wage claims there is in plenty: any trade union official or local party boss could recommend a rate increase (doubtless concealed as up-grading) to the planning authorities; either to win popularity or because he thought it a good thing. Indeed so might a factory manager, for he would not, as under 'capitalism', have to find the money out of his own income. It is true that pressure for higher rates is far slighter than in free countries, and quite unconnected with anything that could justly be called a Labour Movement or Party; also that the trade union's official collective bargaining is exclusively confined to fringe benefits. But none of this prevented a steady rise in rates before the war. There is thus no reason to suppose that Mr. Schwarz's R. 850 represents the total rise in rates between 1946 and 1947; and therefore his absolute figures for each year are under-estimates.

¹ V. Manevich, *Voprosy Ekonomiki* 10/1948. The total number of categories in industrial establishments varies between 7 and 12 in the examples quoted by Leif Björk, *Löner, Priser och Sociallagstiftning i Sovjetunionen*, pp. 66-70.

(iv) Moreover he implicitly assumes that the rise in rates between these two years—whatever it was—is everything. But productivity rose between 1946 and 1947, and this must have raised earnings quite apart from rates. The rise in the productivity of *industrial workers* is claimed to be 13 per cent between 1947 and 1946.¹ These people are 25 per cent² of all workers and employees. Their earnings are more directly correlated with output than anyone else's, but in fact all sorts of people—clerks, shop assistants and factory directors, for instance—do get bonuses for output. Suppose, *per impossibile*, that none of the ways of increasing rates in (iii) above were exploited, but that there was a rise of 5 per cent in earnings of all workers and employees due to the rise in productivity alone. Then of the total increase in earnings of 18.2 per cent only 13.2 per cent is left for the R. 850 published rise in rates. That makes the 1946 wage R. 6,440. If for 5 per cent we put 2 per cent the 1946 wage was R. 5,250. The latter figure is surely a minimum: yet it is much in excess of Mr. Schwarz's R. 4,670 and a good deal nearer my own R. 5,700. Mr. Schwarz has made effective play on the lowering of earnings by reduced productivity in 1945, but he neglects the converse effect in 1947. I continue to believe that the Sept. 1946 wage decree is not a suitable basis for any calculation of Soviet wages, as such calculations assume much too much else to be constant. But it does provide a base datum—to wit, Mr. Schwarz's R. 4,670—a level that was certainly exceeded for the reasons given: the highly probable unpublished further increases in rates and the nearly certain increase in earnings due to rising productivity.

(v) Mr. Schwarz's really serious point is his quotation from *Professional'nye Soyunzy*.³ I can make to it only the lame reply that it is surely a mistake. 'Almost one and a half times' has been used for the *post-war* rise: 'In the last years the money wage of workers and employees in U.S.S.R. has increased almost 1.5 fold' (in the context 'last years' probably means *post-war*)⁴.

The wage figures for individual industries quoted in my previous article are incompatible with Mr. Schwarz's quotation. I am now also able to give a number of regional averages—far more convincing as they include many industries. They are equally incompatible, and equally confirm the generally accepted position. Each of them, too, is more probable than Mr. Schwarz's figure in this, that it refers to a locality only. It is typical of the Soviet security system that local reports give more valuable information and are less carefully censored than general reports. A quotation for the all-union wage is automatically more suspect than one for wages in one town. If it

¹ Pravda, 18 Jan. 1948.

² The figure for 1941: 1941 plan, p. 512.

³ The quotation cannot fairly be re-interpreted. It was in full: 'The real incomes of workers and employees per single earner in 1951 had risen by 57 per cent over 1940, and the real incomes of peasants by 60 per cent. The money wage of the toilers rose in these years (za eti zhe gody) nearly one and a half times (v poltora raza), and real wages, as a result of the five-stage reduction of prices of groceries and mass consumption articles, doubled between 1947 and 1952.'

⁴ Shvernik, *Pravda* 13 Oct., 1953. This interpretation is compatible, for instance, with R. 5,000 in 1945 and R. 7,500 in 1951.

really meant what it said the censor would not have let it through: such important releases, involving a change in the whole policy as to withholding information, are reserved for the speeches of top Communists at big public functions.

- (a) 'Average annual wages of *workers and employees* were: R. 876 in 1928, R. 4,062 in 1940, R. 7,400 in 1948, i.e. they rose nearly 9 times over 1928.¹ The reference in the context is to Georgia alone, and the data are taken by the authors from Charkviani's report to the 14th Georgian Party Congress. The increase, 1940-48, is thus 83 per cent.
- (b) 'In 1948 the average wage of a *worker* in Moscow *industry* was more than double what it was in 1940.'²
- (c) 'The average monthly wage of *workers and employees in the national economy* of the Ukrainian S.S.R. in Sept. 1948 exceeded the level of Sept. 1940 by 78 per cent.'³
- (d) *Workers in Uzbek industry* were receiving in early 1950 a wage 2.2 times that of 1940.⁴
- (e) In Kirghizia in 1950 the number of *workers and employees* had risen by 40 per cent over 1940, and the total wage-bill by 140 per cent; in *industry* alone by 100 per cent and 300 per cent respectively.⁵ This implies earnings increases of 72 per cent and 100 per cent respectively.
- (f) In Armenia between the same dates the number of *workers and employees* had risen by 60 per cent and the wage fund by 177 per cent.⁶ This implies an increase of 73 per cent in earnings.

There is no question, be it noted, of applying Bergson's discount to any of these figures. It would only apply to (e) and (f) anyway, since the others exclude it by their very nature. But we know that the discount is relevant only to centralized wage statistics (see the quotation on my p. 335). Moreover, it would hardly apply, even if decentralized, to workers only or industry only. Thirdly (e) and (f) only agree with the other four if taken *simpliciter*.

The Ukrainian increase of 78 per cent over 1940 fits very well with my own overall increase (Table III) of 75 per cent. The Georgian wage was exactly average in 1940, but greatly above it in 1928 (doubtless because the well paid oil industry weighed so heavily in the total of the underdeveloped republic), and rather above it in 1948. The Kirghiz 72 per cent and the Armenian 73 per cent for two years later imply that earnings were roughly constant over these two years.¹ The figures for industry alone (whether for workers only or for workers and employees) in Moscow, Uzbekistan, Kirghizia and Armenia show merely that industrial earnings had much outstripped

¹ Badtadze, Kakabadze and Nuchubidze, 'The Development of the economy of Soviet Georgia,' in *Izv. Ak. Nauk S.S.S.R., economics and law division*, 3/1951 p. 182. I am indebted for this and the three following quotations to Mr. Gregory Grossman, University of California.

² Popov's report to the Moscow Party Congress, *Pravda*, 2 Feb., 1949.

³ Khrushchov's report to the Ukrainian Party Congress, *Bol'shevik* 3/1949, p. 26.

⁴ *Pravda Vostoka* (Tashkent), 12 Feb. 1950.

⁵ *Pravda*, 7 Feb. 1951. For this and the next quotation I am indebted to Dr. N. Jasny.

⁶ *Izvestia*, 3 Feb. 1951.

the average (and since they were already well above the average in 1941 inequality has greatly increased). Thus all these quotations agree very well with each other and with my own 75 per cent increase over 1940 for 1948. The areas mentioned cover $\frac{1}{3}$ of the non-collective farm population.² Yet they lie principally this side of the Urals, and we know that wages have risen still more the other side of the Urals.³ It may fairly be inferred, then, from these quotations that half (a fairly random half) of the workers and employees were earning about R. 7,100 p.a. in 1948-50. If Mr. Schwarz's R.5,800 (implied in his para 5) is correct as an overall average, the other half—Lenin-grad, White Russia, Azerbaijan etc.—were earning R. 4,500, little more than in 1940. Does he believe this?

P. J. D. WILES.

¹ Which implies that norms have been increased enough to offset the rise in productivity. This is possible though perhaps unlikely. The social service contributions—from which the wage-funds can be very roughly deduced as in my Table IV—imply a slight rise in individual money earnings, so do the plan results for 1950.

² Very roughly. Total non-co-operative retail trade in U.S.S.R. was planned at R. 145 milliard in 1941 (1941 plan, p. 592 : co-operative stores served chiefly the collective farms). The total for the areas mentioned above was R. 53.2 milliard.

³ Decree of 1 Sept. 1946 : see my page 337. See also Voznesensky, *The Economy of U.S.S.R. during World War II* (Public Affairs Press), p. 70 : the greatest war-time increases were in Western Siberia, the Volga and the Urals regions : none of them regions mentioned here.

A NOTE ON THE VALUATION OF BRITISH IMPORTS

Because of different bases of valuation, the monthly trade returns do not provide an entirely accurate guide to the development of Britain's trade balance month by month. Exports are valued free on board (f.o.b.) in such returns, while the valuation of imports is inclusive of insurance and freight charges (c.i.f.), a large proportion of which, of course, are not charges at all from a balance-of-payments point of view, accruing as they do to British insurance and transport enterprises.

The conventional adjustment adopted by non-official commentators for this 'invisible' element in the trade returns is the reduction of the c.i.f. figure by a round 10 per cent. in order to bring it to an f.o.b. basis.¹ This is a convenient enough procedure, and one which rests upon a relatively venerable tradition that insurance and freight charges on British imports do in fact amount to something in the reasonable neighbourhood of ten per cent. It is quite obvious, however, that these service charges vary widely with both the nature and the source of the imported commodities. A ton of gold will keep a substantially greater number of insurance brokers in employment than a ton of coal, while the distinction between Portuguese and South African wine is important to shipping companies as well as to the *connoisseur*. Since both the commodity content and regional distribution of British trade has been subject to pronounced modification in recent years, therefore, it is worth while enquiring as to the accuracy of this conventional 10 per cent adjustment.

One method of checking the relationship between c.i.f. and f.o.b. values is to take advantage of the fact that the practice of valuing exports f.o.b. is almost universal; this permits a comparison between the f.o.b. values of exports to the United Kingdom and the c.i.f. values which the same exports (now become imports) are given in British trade returns. The United Nations publication *The Direction of International Trade* allows of such a comparison with respect to major sources of British imports, and this is shown in Table I. In this table, the difference between the f.o.b. exports to the United Kingdom as valued by the exporting countries and the Board of Trade c.i.f. values of imports from these regions has been expressed as a percentage of the c.i.f. values. These percentages should, of course, give some indication of the insurance and freight element in British imports.

The very wide variations between the insurance and freight costs on British imports emerge very clearly from this type of analysis. Whereas the results obtained indicate a 'c.i.f. element' of well below 10 per cent for imports drawn from O.E.E.C., they suggest that this element is nearer 20 per cent for imports from the United States and Canada. These figures, however, clearly cannot carry one very far. While the discrepancies between

¹ Reference to this convention may be seen, for example, in Holland and Seers, 'The Paradoxes of 1952', *Bulletin of the Oxford University Institute of Statistics*, Vol. 14, Nos. 11 and 12, Nov.-Dec. 1952, pp. 393-4.

TABLE I
SHIPPING AND INSURANCE ELEMENT IN BRITISH IMPORTS, 1937-52 (%)

				Source of Imports					
				World	O.E.E.C.	U.S.	Canada	New Zealand	U.S.S.R. Egypt
1937-38	...	...	...	13.9	6.7	7.6	9.6	17.2	11.1
1948-49	...	...	...	14.6	11.0	13.9	18.8	13.3	12.4
1949-50	...	...	...	12.4	8.8	14.4	15.4	9.3	9.6
1950-51	...	...	...	11.6	6.3	14.8	16.4	11.5	9.7
1951-52	...	...	...	13.7	6.2	19.5	16.2	9.0	

Source: *Direction of International Trade* (United Nations, I.M.F. and I.B.R.D.) Vol. IV, No. 1-2.

the scope of trade statistics on the one hand and payments statistics on the other are very well known, it is perhaps less obvious that similar objections apply to the comparison of the trade statistics of various countries for any given period. Quite apart from such rather special considerations as the inclusion in trade statistics by country A of military end-items (or other special items) exported to country B, and their exclusion from B's statistics of imports from A, there are more straightforward reasons why the export and import statistics of any two countries should diverge over a given interval. In particular, there are always 'pipe-line' shipments which are the trade equivalent of industry's work-in-progress. At any moment there are goods in course of transport across the world which may have been classified as exports by the consigning country but have not yet been included in the imports of the receiving country, which calculates its imports only on the basis of physical receipts at least for the purpose of trade statistics.¹ In periods of fluctuating trade (and when is international trade stable?) significant divergences may arise for this reason. A rise in trade will probably be reflected in increased exports slightly before the equivalent increase is recorded in import statistics; conversely in periods of falling trade. The degree to which the statistics even of import/export volumes can diverge may be seen from four examples taken from statistics relating to imports from the United States by the United Kingdom during 1952²:

					U.S. exports to the U.K. (metric tons)	U.K. imports from the U.S.A. (metric tons)
Margarine and Shortenings	...	...	...	...	46,651	59,620
Unmanufactured Tobacco	...	...	...	...	24,582	30,319
Coal tar dyestuffs	...	...	...	...	154	82
Synthetic plastics	...	...	...	...	3,773	4,190

To some extent, the effect of these divergences can be reduced by the adoption of the expedient of averaging the statistics over a period of two years, as is done in Table I. Obviously this is at best a rough-and-ready correction

¹ For a fuller discussion of these differences of coverage, see Holland and Seers, *loc. cit.*, pp. 394-5.

² See O.E.E.C. Statistical Bulletins, Series IV, *Foreign Trade by Commodity and Area of Origin and Destination, 1952* (O.E.E.C., Paris) United Kingdom (July 1953), United States (August 1953).

of doubtful accuracy. The existence of detailed volume figures for international trade, however, enables a somewhat more rational correction to be attempted. Through comparison of the physical volumes of any given commodity covered by the export and import statistics respectively of two trading countries, an appreciation may be obtained of the extent to which the trade returns concerned are covering the same transactions. If the volume of exports of a given commodity by country A to country B in a given year is identical with the volume of imports of that commodity by B from A in the same year, the difference between the declared *value* of these exports from A to B and imports by B from A can be taken to arise from the fact that A values its exports f.o.b. whereas B values its imports c.i.f. The difference between the two values therefore represents the cost of the insurance, freight, and other 'invisible' items (including tariffs) of the consignment concerned.

This is not an absolutely reliable method, of course. The identity of physical volumes of exports and imports does not necessarily imply the identity of the actual transactions involved. Different consignments *may* be involved, their volumes being equal merely by coincidence. In such a case, of course, it is only a marginal amount which is involved in different transactions, and the assumption that the f.o.b. and c.i.f. values refer to the same transactions amounts in fact to the assumption that the prices and freight costs of these marginal items were on average the same as the bulk of the transactions falling within both valuations. More important, this kind of assumption has to be made in the situation which invariably occurs in practice—*i.e.* that where the export and import volumes differ by a relatively small amount. In such cases, the correction for the different coverage of the trade returns of the countries involved consists in writing up the c.i.f. imports value (or writing it down, as the case may be) by the same proportion as that by which the volume of imports falls below (or exceeds) the parallel volume of exports. The comparison of the 'corrected' imports value figure with the exports value figure will then yield an estimate of the proportion of the value of imports which arises from insurance and freight charges.

An example may make this clear. Suppose that in a given year the trade returns of country A indicate exports of 3 million tons of wheat to country B of a value (f.o.b.) of \$200 million, while the trade returns of B indicate imports of 2.8 millions tons of wheat from A during the same year amounting to \$210 million in value. In order to make the two value figures comparable, the imports value can be written up by the ratio of the two volume figures, *i.e.* 2.8 : 3.0, giving a hypothetical c.i.f. valuation of \$225 million for the exports of 3 million tons. The difference between the f.o.b. value of \$200 million and the (hypothetical) c.i.f. value of \$225 million can be taken to represent freight etc. charges; this would give a 'c.i.f. element' of 12.5 per cent for imports of wheat (\$ 25 million as a percentage of \$ 200 million). The assumption being made, of course, is that the average cost (price, insurance, shipping, etc.) of the 0.2 million tons included in the export statistics but

excluded from the import statistics would be the same as the 2.8 million tons which can be taken as included in both sets of statistics.

Clearly the damage inflicted by this kind of assumption will depend largely on the dimensions of the discrepancy between the volume figures of exports and imports. Where the difference is of the order of only 5 to 6 per cent (which is most frequently the case) it is unlikely that any very serious error is being introduced.¹ Where the statistics diverge by 20 or 30 per cent, however, as is the case in the examples shown above, such an assumption naturally becomes impracticable.

The range of commodities which can provide the raw material for this kind of analysis is therefore narrowed very much more drastically than those having only a nodding acquaintance with trade statistics might imagine. For Table II, sixteen important British imports have been analysed along these lines to obtain an indication of the c.i.f. element during 1952 in respect of commodities drawn from three major sources. It will be seen that, on average, the c.i.f. values of imports from O.E.E.C. have to be reduced by at least 15 per cent in order to obtain an approximate f.o.b. valuation, while those of imports from North America need to be reduced by at least 20 per cent. To obtain a true estimate by this method of the c.i.f. element in United Kingdom imports as a whole, of course, it would be necessary to conduct a similar type of analysis for all the other regions which supply the United Kingdom. It seems likely, however, that the c.i.f. element in imports from the outer sterling area (which accounts for nearly 70 per cent of the United Kingdom's imports in 1952 from areas other than those shown in Table II) would be at least as high as that in O.E.E.C. imports, and would probably be somewhere near that in imports from North America. An average based on O.E.E.C. and North America would therefore err somewhat on the conservative side. Weighting the average c.i.f. elements shown in Table II according to the relative importance of each area as an exporter to the United Kingdom in 1952, the average reduction necessary seems to be of the order of at least 18 per cent.²

This figure is considerably higher than the conventional approximation of 10 per cent. To some extent this may be due to the high level of transport costs relative to commodity prices in 1952. Although it was some 37 per cent lower than in 1951, the Chamber of Shipping's index of tramp rates was still more than 30 per cent higher in 1952 than in 1950 whereas the price level of raw materials imported by O.E.E.C. countries was only 7 per cent higher in 1952 than in 1950; during the first half of 1953, the freight index was nearly 20 per cent below the average for 1952, and in July of 1953 both the

¹ Although it should be remembered that the possibility of completely different transactions being covered by apparently similar trade returns is liable to involve quite significant error.

² For what the comparison may be worth, the difference between the c.i.f. imports figure for 1952 given in the *Report on Overseas Trade* (H.M.S.O., September 1953), Vol. IV, No. 9, Table 1, and the f.o.b. figure given in the *United Kingdom Balance of Payments 1946 to 1953* (H.M.S.O., Cmd. 8976, October 1953), Table I, represents 16 per cent of the c.i.f. figure or 19 per cent of the f.o.b. figure.

TABLE II
Insurance and Freight Charges on U.K.¹ Imports, 1952
 (% of f.o.b. values)

S.I.T.C. Group	Source of Imports		
	O.E.E.C. ¹	U.S.	Canada
041 Wheat and spelt	—	22.9	24.3
043 Barley	21.2	—	26.5
044 Maize Corn	—	24.8	—
046 Meal and flour	13.1	—	19.2
051 Fresh fruits and nuts... ..	48.8	100.0	—
052 Dried fruits	5.1	30.7	—
054 Fresh vegetables	23.4	20.8	—
251 Pulp and waste paper	—	23.6	24.9
265 Vegetable fibres	3.8	—	25.8
311 Coal, coke and briquettes	17.9	118.9	—
411 Animal oils and fats	13.5	—	—
412 Vegetable oils	6.1	—	—
641 ² Paper and paperboard	11.3	17.5	29.0
682 ³ Copper	—	10.1	16.5
683 Nickel	6.8	—	20.7
686 Zinc	—	21.1	17.3
Weighted Average	15.5	23.1	22.7

Source. O.E.E.C. Statistical Bulletins, Series IV, *Foreign Trade by Commodity and Area of Origin and Destination, 1952*, (O.E.E.C., Paris, September 1953.)

¹ Figures of O.E.E.C. exports refer to trade between Sterling (U.K. Ireland and Iceland) and non-Sterling metropolitan member countries.

² For U.S., common wrapping paper only; for Canada, newsprint paper only.

³ Unwrought metal only for Canada.

freight index and that of raw materials imported by O.E.E.C. had virtually returned to the 1950 average.¹ The 'c.i.f. element' can therefore be expected to be somewhat lower in 1953 than in 1952. It would not seem likely, however, that even a substantial reduction in freight charges relative to commodity prices (only one factor in overall service charges in international trade) would reduce the total 'c.i.f. element' by much more than one or two per cent. It is difficult to avoid the conclusion that as a working approximation to the f.o.b. costs of imports, a reduction by at least 15 per cent would be considerably nearer the mark than one by the conventional 10 per cent.

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¹ See O.E.E.C. Statistical Bulletin, *General Statistics*, No. 5 (O.E.E.C., Paris, September 1953, pp. 74-5.

